

The Effects of Jigsaw and GTM on the Reading Comprehension Achievement of the Second Grade of Senior High School Students

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Abstract. *The aim of this study is to compare the effectiveness of Jigsaw and GTM on second grade of senior high school students' reading achievement. The subjects of the study used are two classes of the second grade of St. Agnes Senior High School. A quasi-experimental research with a pretest-posttest non-equivalent control group design was used to do this research. In order to know the effects of those two techniques, the writer used the pretest posttest as the instrument with 16 multiple choice items. To calculate the data, t-test for significance of difference between two means for independent samples was used. After analyzing the data which had been collected, the writer found out that the mean of the gain scores of the experimental group was 1.68 and the control group was 0.81. The mean of the gain scores between the two groups were not significantly different. It means the students who were taught using Jigsaw technique did not have a better reading achievement than those who were taught using GTM.*

Introduction

English as a foreign language in Indonesia is considered to be the most important language among other foreign languages. It is simply because of its status as an International language. It is spoken in most of the countries around the world. This fact leads Indonesian people to learn English, and even the government has put English as a compulsory subject included in the curriculum.

Based on the 1994 curriculum for senior high school, English is considered as an important subject to be taught. The Indonesian government, Departemen Pendidikan dan Kebudayaan states that teaching

English as the first foreign language for senior high school students in Indonesia involves integrated reading, listening, speaking, and writing skills with the emphasis on reading skill (GBPP 1994).

Among those four skills, reading seems to occupy the most time, especially in senior high school. Besides, reading is important to broaden the students knowledge, according to Nababan as quoted by Ngadiman (1990: 1) most textbook used in higher education are written in English. Consequently, the senior high school students have to prepare to be able to understand the English text, even though it is quite hard to do.

The students can easily get bored with reading subject because there are no variations in learning to read English. Most of the teachers still use the traditional method which also known as GTM. GTM has been long used in teaching reading comprehension; however this technique makes the students cannot participate actively in the reading class. In GTM, the teacher is the one who has the authority and the students' role is as the object. In GTM, the students always have the same situation, same class arrangement (sitting face to face between the teacher and the students while the teacher discussing and explaining the subject), and the same activities, such as reading the passage aloud, find the difficult words, and answer the question when they have a reading class. What should the writer do to overcome the problems above?

To overcome the problem above, as the Indonesian government states that the teacher's role is as a facilitator in teaching learning activity and the students as the subject instead of the object (CBC 2004). The writer suggests jigsaw technique, one of the cooperative learning methods, which place the students as the subject and the teacher as the facilitator. Moreover, this technique includes a different classroom setting and different activities that can chase away the students' boredom.

Derived directly from the previous statements, the objective of this study is to see whether the second grade of senior high school students who are taught using Jigsaw get a better reading comprehension achievement than those who are taught using GTM.

The Method

This study used a quasi-experimental research with a pretest-posttest non-equivalent control group design (Furchan, 1982, 368). The choice of this design was based on the consideration that it was not just possible to randomly assigned subjects to group. The writer used two existing classrooms which had been divided before when the students entered the school as the second year students.

The population of this study was the second year students of St. Agnes Senior High School, Surabaya. There were five classes there, but the writer chose only three classes for the sample of this study. Those three classes were assigned to join certain groups. One class was assigned to join the pilot group. One class was assigned to join the experimental group and the other class was assigned as the control group. The sample

students were selected by non-randomized sampling procedure since this study was conducted in intact classroom.

In order to get data for this study, the writer used a reading test as the instrument for the research. The instrument was given as pretest and posttest. Both the pretest and posttest had the same items. There were 16 items in the research instrument. The type of the problem was objective or multiple choice consisted of four options. The test contained three reading passages which were taken from wikipedia 2006, the free encyclopedia, Window on the World 2001 by Erlangga, and Linked to the World 2005 by Yudisthira.

The Result of Data Analysis

In this study the writer determines that the criteria of the acceptance and the rejection of Null hypothesis (H_0) and Alternative hypothesis (H_A) depends on the value of t-observation with the level of test significance 5% (0.05). H_0 is accepted if the value of t-table is above t-observation. While, if the value of t-table is below or the same as the value of t-observation, H_0 is rejected, in this case H_A is accepted.

Before the writer answer the problem statement "Is there any significant difference between the reading comprehension achievement of the second grade of senior high school students who are taught using jigsaw than those who are taught using jigsaw than those who are taught using GTM?", first the writer use the pretest score to find out whether the two groups had equal English proficiency. The t-test for significance of the different between the two means for independent samples was used to analyze the scores of the two groups.

Table 1

The result of t-test for the pretest scores of the experimental and control group

Groups	Mean	Standard deviation	t-observation	t-table	note
Experimental	10.06	3.34	0.80	1.671	Not significant
Control	10.00	3.01			

Table 1 showed the mean of experimental group is 10.06, while the mean of the control group is 10.00. Meanwhile, the result of the standard deviation for the experimental group is 3.34, while for the control group is 3.01.

With the level of significance of 5% and t-table 1.671, the writer found out that t-observation is 0.80. Since $t\text{-observation} < t\text{-table}$, H_0 was accepted. Thus, there is no significant difference between the two groups.

This result showed that the two groups had equal English proficiency at the beginning of the treatment administration.

On the next analysis the writer directly used t-test in order to know whether there was a significant difference between the posttest means of the two groups.

Table 2

The result of t-test for the pretest scores of the experimental and control group

Groups	Mean	Standard deviation	t-observation	t-table	note
Experimental	11.74	2.61	1.184	1.671	Not significant
Control	10.87	3.16			

Table 2 showed the mean of experimental group is 11.74, while the mean of the control group is 10.87. Meanwhile, the result of the standard deviation for the experimental group is 2.61, while for the control group is 3.16.

With the level of significance of 5% and t-table 1.671, the writer found out that t-observation is 1.184. Since $t\text{-observation} < t\text{-table}$, H_0 was accepted, the posttest mean scores between the two groups were not significantly different.

The Hypothesis Testing

This hypothesis deals with the effects of teaching reading using jigsaw. There were two hypotheses; the alternative hypothesis and the null hypothesis. The alternative hypothesis which stated that there is a significant difference between the reading achievement of the second grade of senior high school students who are taught reading using jigsaw and those taught using GTM, and the null hypothesis which stated that there is no significant difference between the reading achievement of the second grade of senior high school students who are taught reading using jigsaw and those taught using GTM. The hypothesis was then tested by comparing the mean of the posttest scores of the two groups. The t-test was analyzed using the SPSS program.

Based on t-test analysis, it was found that the t-observation of the posttest's scores was not significantly different than t-table in the level of significance of 5% or 0.05. Therefore, the alternatives hypothesis was rejected; instead the null hypothesis was accepted. Thus teaching reading using jigsaw did not show significant improvement students' reading achievement.

Discussion of the Findings

This finding of the study was the opposite of other study related to jigsaw technique. Evy Kurnia's (2002) finding showed that there was improvement in students' reading achievement after the student were taught using jigsaw. Below are the lists of some possible causes

1. The treatment was only once a week and only done three times in each group (experimental and control). It made the students get difficulties in adjusts to the jigsaw as the new technique for them. Moreover the students never experienced this kind of learning activity.
2. In Jigsaw, the students had to do their activity in two groups' namely expert team and home team. Even though the students in this study were old enough to work in groups and had experienced working in groups, they were still not accustomed to work in expert team and home team.
3. It was also quite difficult in making the students worked in groups seriously. Some problems occurred, for example some students did not want to be in the same group with other students whom they didn't like.
4. The differences in students' characteristics also influenced the application of jigsaw. Some students did not like to work in groups; they didn't want to share what they know. Some students wanted to work in group with the other students they like. Some students were very talkative, and many more.
5. The classroom in which jigsaw was implemented was not big enough for the students to have discussion, since the numbers of the students were big enough. This condition made the space between the groups too close; it made the class noisy because the students could easily chat with other students in the other groups. It was also difficult for the writer to move from group to group to check the student's activities in expert team or in home team.

Conclusion

English as a foreign language in Indonesia is considered to be the most important language among other foreign languages. It is simply because of its status as an International language. It is spoken in most of the countries around the world. This fact leads Indonesian people to learn English, and even the government has put English as a compulsory subject included in the curriculum.

There are four skills in learning English; listening, speaking, reading and writing. Among those four skills, reading seems to occupy the most time, especially in senior high school. However, the students get bored easily in reading class because most of the teachers still using the old method such as reading the passage aloud, find the words, and answer the question. Most of the activities in the class are held by the teacher. To overcome the problem above, the writer applies jigsaw technique which concern on students' orientation.

The particular objective of this study is to find out whether there is any significant difference between the reading comprehension achievement of the second grade of senior high school students who are taught using jigsaw than those who are taught using GTM.

To get the data of the research, the writer using a quasi-experimental research with a pretest-posttest non-equivalent control group design. In a particular, the data used in this study were taken from the scores of pretest and posttest of the second grade of St. Agnes Senior High School.

The analysis of the pretest using t-test by the help of SPSS program showed that the mean scores between the two groups were not significantly different. It means that the two groups had equal English proficiency at the beginning of the treatment administration. On the next analysis, the writer also used t-test provided in SPSS to know whether there was a significant difference between the posttest of the two groups.

The result of the t-test for the posttest of the two groups as provided in SPSS showed that the means scores between the two groups were not significantly different. It means that there was no significance different between the reading comprehension achievements of the second grade of senior high school students who were taught using jigsaw than those who were taught using GTM.

Suggestions

This study shows that the implementation of Jigsaw technique in reading class of St. Agnes second grade of Senior High School students did not show the beneficial effect. It was statistically proven that there was no significant difference between the students who were taught using jigsaw technique and the ones who were taught using GTM.

Here are some recommendations for the next researchers who are interested in the same field of study, so the researchers can have better results.

1. The treatments given were only three times. It was too short for the student to adapt with the new technique, which concern in the students activity. So the writer suggests that longer treatments should be given.
2. It was also quite difficult in making the students worked in groups seriously. Some problems occurred, for example some students did not want to be in the same group with other students whom they didn't like, so they didn't want to participate in the group. So the explanation

- about the role of Jigsaw technique before the lesson can be effective to make the students understand the function of the group work.
3. The differences in students' characteristics also influenced the application of jigsaw. For examples: some students did not like to work in groups; they didn't want to share what they know, some students wanted to work in groups with the other students they like, and some students were very talkative. Therefore the teacher's explanation about having their own responsibility of the groups was important. It also could make the students learn how to be concerned to others' needs.
 4. The classroom in which jigsaw was implemented was not big enough for the students to have discussion. This condition made the space between the groups too close; it could make the class noisy because the students could easily chat with other students in other groups. It was also difficult for the writer to move from group to group to check the student's activities in expert team or in home team. If it is possible, choosing the other place to implement jigsaw, such as the auditorium.
 5. The number of the students were too many for the implementation of the jigsaw technique, since the teacher as the facilitator needs to move from one group to other group; the smaller number of the students can be more effective in implementing jigsaw.

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